

State Agencies/Colleges and Universities Waste Reduction, Recycling and Buy Recycled

Fiscal Year 2002 Annual Report

Prepared for
The Honorable Mark Sanford, Governor
Members of the Legislature
State of South Carolina

Prepared by
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DHEC's Office of Solid Waste Reduction and Recycling

The S.C. Solid Waste Policy and Management Act of 1991 (Act) created DHEC's Office of Solid Waste Reduction and Recycling (Office). The Office provides technical assistance, grant funding and educational programs to local governments, schools, colleges and universities, and the public. The Office, in accordance with the Act, has no regulatory, compliance or enforcement role.

Major education projects for the Office include:

- **"Action for a cleaner tomorrow: A South Carolina Environmental Curriculum Supplement"** – "Action" is a national award-winning kindergarten through 12th grade activity-based interdisciplinary curriculum supplement that can serve as a starting place for introducing basic environmental education in the classroom.
- **The Recycle Guys Public Awareness Campaign** – "R-E-C-Y-C-L-E... it begins with you and me" is the

opening line of the Office's national award-winning public service announcements (PSAs). These animated 15- and 30-second television PSAs, first broadcast in 1997, feature the "Recycle Guys" who began their career as the Office's logo in 1992. In addition to getting the word out about recycling, the campaign has grown to include PSAs on air, water and energy. The campaign has been adopted by nine states including North Carolina, Arizona and Pennsylvania as well as the City of Denver.

- **The Recycle Guys Awards Program** – Each year, the Office honors the top recycling programs, projects and people in South Carolina for outstanding and innovative achievements in recycling and waste reduction.

For more information about these and other programs offered by the Office, visit www.scdhec.net/recycle or call the statewide recycling hot line at 1-800-768-7348.



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* This guide is only for state agencies and colleges/universities in the Columbia area that has a recycling program serviced by the S.C. Department of Corrections.

Introduction

The S.C. Solid Waste Policy and Management Act of 1991 (Act) was signed into law on May 27, 1991. The Act, which is the state's first comprehensive law on solid waste management, set waste reduction and recycling goals and required local governments to keep track of waste generated and to report annually to the S.C. Department of Health and Environmental Control (DHEC). In addition, the Act established DHEC's Office of Solid Waste Reduction and Recycling (Office). The duties and responsibilities of the Office include:

- receiving funds for and disbursing funds from the Solid Waste Management Trust Fund;
- managing the Solid Waste Management Grant Program;
- promoting and assisting in the development of solid waste reduction, source separation, recycling, household hazardous materials management programs and resource recovery programs;
- maintaining a directory of recycling and resource recovery systems in the state and provide assistance in matching recovered materials with markets;
- developing and providing education programs and materials to schools as well as solid waste management professionals; and
- encouraging solid waste reduction and recycling.

The Act was amended on October 3, 2002 requiring state agencies as well as colleges and universities to measure waste reduction, recycling and buying recycled activities and report those activities to DHEC. Specifically, state agencies as well as colleges and universities must:

- measure materials being recycled;
- measure and report the purchases of recycled content products; and
- identify waste reduction practices.

The Office is responsible for compiling data from these reports and publishing the "State Agencies/ Colleges and Universities Waste Reduction, Recycling and Buy Recycled Annual Report." This report is available at www.scdhec.net/recycle.

This annual report provides information for fiscal year (FY) 2002, reflecting activities from July 1, 2001 through June 30, 2002. Last year's report – the first report required under the new amendment – covered activity for the first six months of FY 2001.

Waste reduction, recycling and buying recycled are important issues and have the potential to save money, conserve natural resources and protect the environment. State government has the opportunity to serve as a model to the private sector as well as the public on how this can be done.

Executive Summary

The S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling (Office) designed and sent the single-page annual reporting form to 73 state agencies as well as 30 colleges and universities. Sixty-one state agencies and 28 colleges and universities completed and returned the form. What were the results? State agencies, colleges and universities recycled almost 15,000 tons of materials in fiscal year (FY) 2002. In addition, state agencies reported that about 10 percent of their total purchases were for recycled content products while colleges and universities reported about 7 percent.

After reviewing the recycling totals from the first report, it was apparent that the total amounts of the two reports did not compare. A review of the reports confirmed that one agency reported an amount in pounds and not tons and this figure had not been converted.

Several interesting programs to note are:

- The Medical University of South Carolina (MUSC) in Charleston is recycling pre-consumer food waste by vermicomposting. Vermicomposting is the production of compost using worms to digest organic waste. Since July 2000, the worms have eaten more than 34,000 pounds of food waste mixed with newspaper and cardboard. This project is funded in part by the S.C. Department of Health and Environmental Control (DHEC), the S.C. Energy Office and MUSC through a Sustainable Universities Initiative.
- The S.C. Department of Corrections, (SCDC) operates a recycling program that serves 31 prisons and provides service to other state agencies and technical colleges. SCDC has achieved a 50 percent reduction in its waste stream and a 50 percent recycling rate. This allowed SCDC to renegotiate its disposal contracts that resulted in a \$300,000 savings – more than 20 percent of its overall disposal costs. The program's success is due in large part to the use of empty delivery trucks to back-haul recyclables for transport and marketing. SCDC recycles office paper, computer paper, cardboard, newspaper, magazines, aluminum, scrap steel, copper, brass, computers, pallets, textiles, laser cartridges, batteries and No. 10 steel cans (from dining facilities).
- The S.C. Human Affairs Commission purchases and tracks the recycled content products it buys including paper products and pencils.
- The S.C. Department of Disabilities and Special Needs leases computers. Given this, the agency does not have to look into end-of-life management of unwanted computers.
- The S.C. Department of Mental Health maintains a compost pile at two locations accepting grass clippings, leaves, flowers and plants.
- The Office of the Adjutant General recycles antifreeze.
- The Education Oversight Committee makes notepads from out-of-date letterhead and uses shredded paper as packing material.
- The S.C. Administrative Law Judge Division makes two-sided copies, reuses folders and scrap paper and participates in a toner cartridge exchange.
- DHEC has designated recycling coordinators in more than 100 of its buildings throughout the state. The agency recycles office paper, aluminum and steel cans. In addition, the Office provides technical assistance to local governments, schools, colleges and universities, and state agencies. DHEC serves as a partner and endorser of the U.S. Environmental Protection Agency's WasteWise program. WasteWise is a free, voluntary program that has its partners set waste prevention, recycling and buying recycled goals. The Office recruits other organizations to become WasteWise members.

Recycling

Recycling is the collection, separating, processing and marketing of materials so they can be made into new products. The chart below shows materials and amounts recycled. These numbers, reported in tons, reflect recycling activities for fiscal year (FY) 2002 – July 1, 2001 through June 30, 2002.

College/ Universities	Tons Collected	State Agencies	Tons Collected
Paper	1,476.24	Paper	3,076.87
Newspaper	65.46	Newspaper	350.86
Magazines	86.15	Magazines	398.75
Books	11.95	Books	7.80
Cardboard	617.49	Cardboard	1,073.50
Phone books	25.79	Phone books	81.83
Oil	38.01	Oil	5,809.11
Oil filters	2.95	Oil filters	483.51
Batteries Lead/Rechargeable	5.33	Batteries Lead/Rechargeable	98.77
Yard waste	87.08	Yard waste	0.00
Food waste	4.73	Food waste	0.00
Glass	48.74	Glass	2.40
Plastic	33.94	Plastic	3.56
Aluminum/ Aluminum cans	11.37	Aluminum/ Aluminum cans	44.92
Other	1.75	Other	1.64
Steel	284.77	Steel	436.47
Furniture	2.50	Furniture	0.00
Pallets	88.14	Pallets	61.81
Computers	20.40	Computers	3.08
Electronics	27.00	- - -	
Fluorescent lights	10.78	Fluorescent lights	5.46
TOTAL	2,950.57	TOTAL	11,940.34

Recycling programs vary. There is not one standardized method for the collection. In addition, different programs collect different materials. The determining factor for materials collected is governed by markets.

The FY 2002 Reporting Form, sent to state agencies as well as colleges and universities, did not ask for a description of the recycling programs. Instead, it asked for the materials collected and amounts.

The majority of the state agencies and some colleges located in the Columbia area are serviced by the S.C. Department of Corrections (SCDC) for free. SCDC picks up and delivers the collected recyclables to its recycling center where inmates sort the materials,

preparing them for market. For example, all paper is sorted by type – white paper, computer paper, newspaper, magazines and mixed office paper. After the sorting, all materials are shredded, baled and delivered to a recycling vendor.

On October 8, 2002, SCDC notified their customers of the amounts of recyclables collected and shredded as well as the savings incurred if this service had been done commercially. For example, a commercial shredding company would charge 11 to 15 cents per pound. If an agency recycled 100,000 pounds of paper, the savings would be no less than \$11,000.

On January 1, 2003, SCDC began charging agencies generating low volumes of recyclables for its recycling and shredding services. A service agreement was set up with each low-volume agency. But, if the collected recyclables exceed 10 tons per FY, the fee requirement would be reduced or eliminated.

Additionally, in the Columbia area, the City of Columbia will collect white office paper from state agencies and colleges at no charge.

For state agencies, colleges and universities outside the Columbia area, what is collected in the recycling program and how the recyclables are picked up and taken to market also can vary. If the county or city where the college or agency is located offers recycling pick-up, then a partnership or an agreement is an option, usually at no extra cost. If the county or city does not offer a recycling pick-up program, then the college or agency must coordinate taking the recyclables to a drop-off center or work with a private hauler to get the recyclables to market.

Many programs form partnerships to offer more recycling services or target a specific recyclable. For example, the S.C. Department of Transportation (SCDOT), S.C. Department of Park, Recreation and Tourism (SCPRT), the Office and several county governments have formed a partnership to provide recycling at seven of the state's Welcome Centers. Coordinated by the S.C. Department of Health and Environmental Control's Office of Solid Waste Reduction and Recycling, SCDOT provides the maintenance at the welcome centers, SCPRT staffs the welcome centers and the local governments provide either collection and/or transportation services for the collected recyclables.

Recycling Guide

The following list was provided by the S.C. Department of Corrections to be used as a recycling guide for state agencies and colleges/universities in the Columbia area.

WHAT CAN BE PLACED IN AN OFFICE RECYCLING CONTAINER?

White Paper such as:

- Copy Paper
- Envelopes (plain & window)
- Memos and Letters
- Phone Messages
- Fax Paper
- Shredded Paper

Colored or Mixed Paper such as:

- Sticky Notes
- Legal Pad Paper
- Tri-color Carbonless Forms
- Manila Folders

Paperboard such as:

- Supply Boxes
- Cardstock
- Large Brown Envelopes
- Legal Files
- Backs of Legal Pads
- Candy and Cereal Boxes

WHAT CAN BE PLACED IN CENTRALLY LOCATED RECYCLING BINS?

- Flatten corrugated cardboard

Other Recyclables, such as:

- Phone Books (seasonal)
- Magazines
- Green/Blue Bar Computer Paper
- Newspapers
- Electrical Wire
- Scrap Metal, Copper and Brass
- Aluminum and Aluminum Cans
- CPUs
- Ink Jet and Laser Cartridges
- #10 Steel Cans

DO NOT RECYCLE THESE:

- Glass
- Plastic
- Carbon Paper
- Candy Wrappers
- Food or Food Waste
- Three-ring Binders
- Styrofoam or Paper Cups
- Napkins or Tissue
- Wood
- Electronic Equipment
- Small Printers

Waste Reduction

Waste reduction is reducing the amount of waste generated through source reduction, reuse, recycling, composting and/or other diversions. Waste reduction methods have to be identified before they can be measured. The FY 2002 Reporting Form sent to state agencies as well as colleges and universities only requested the types of waste reduction practices being used. The S.C. Department of Health and Environmental Control's Office of Solid Waste Reduction and Recycling is exploring ways to track, measure and report waste reduction activities.

Of the 61 state agencies and 28 colleges and universities reporting, 56 state agencies and 27 colleges reported waste reduction practices.

Examples of waste reduction activities include:

- making two-sided copies – consider making this a default setting on your copy machine;
- using e-mail for routine communication;
- using fax labels instead of cover sheets;
- using the clean side of used paper (e.g., fax confirmation sheets);
- limiting the number of copies of publications you receive – circulate one copy throughout the office;
- taking home recyclables that are not collected in your office program (e.g., plastic soft drink bottles);
- requesting minimal packaging when ordering supplies;
- reusing packing peanuts and boxes for mailing;
- setting up mulch and composting programs;
- reusing paper folders, three-ring binders and other office supplies;
- setting up a toner cartridge recycling program;
- leasing computers and other office electronics equipment; and
- placing your materials, reports and other appropriate information on your agency's/college's or university's Web site and promoting the use of it.

Buying Recycled

Buying recycled is purchasing a recycled content product that is made in whole or in part from material recovered from products that have been recycled.

The FY 2002 Reporting Form asks state agencies as well as colleges and universities to determine the following – of the total dollar amount of their purchases, what percent is for recycled content products?

Fifty-five state agencies and 24 colleges and universities responded to the buy recycled question. On average, state agencies reported that their buy recycled purchases were 10 percent of their total dollar amount of purchases. College and universities reported 7 percent of their total dollar amount purchases were for recycled content products. It should be noted how difficult it is to track purchases of recycled content products because of the difficulty of correctly identifying those products.

Below are some of the recycled content products that were purchased:

- **COPY PAPER** – The percentage of recycled content can vary but the performance does not.
 - There are state contracts for recycled content business cards and bond paper.
 - Central Supply offers recycled content items such as steno pads, easel pads and bond paper with the state seal.
 - **OFFICE FURNITURE** – There are brands that use recycled content steel in their products.
 - **OFFICE PRODUCTS** – There are many office products including pencils, pens, pads, calendars, desk accessories, postable notes, computer disks and folders made from recycled content materials.
 - **TONER CARTRIDGES** – Many companies offer rebuilt or re-inked cartridges.
 - **CLOTHES, UNIFORMS OR BAGS** – Many companies offers clothing made of reclaimed cotton and/or plastic from soft drink bottles.
 - **USED TIRES** – Old tires have many new uses including being processed into welcome mats, machine mats, soaker hoses, paving for walking paths, tire/asphalt roads, rubber tire chips used as aggregate for road paving and septic system drain lines and mulch. Several examples are:
 - walking paths or running tracks;
 - septic system drain lines;
 - mulch from used tires is used at some rest areas and welcome centers; and
 - rubberized asphalt roads.
- The Asphalt Rubber Technology Service (ARTS) was created by the S.C. Department of Health and Environmental Control (DHEC), Clemson University and the City of Clemson for the purpose of promoting, designing and testing the use of recycled scrap tires in rubberized asphalt and other crumb rubber civil infrastructure applications. To date 38,850 tires have been used to make 21,800 tons of rubberized asphalt in various projects at the following locations: Pickens County School District; Anderson County; S.C. Botanical Garden; Clemson Outdoor Laboratory; and Greenville County. To learn more about ARTS, visit www.ces.clemson.edu/arts.
- **PLASTIC LUMBER** – Lumber made from post-consumer milk jugs, detergent bottles and other plastics can be used to make outdoor furniture such as picnic tables, benches, recycling and waste containers. Other projects include:
 - using plastic lumber for new decking at the Congaree Swamp's walkway; and
 - rebuilding docks and picnic tables with plastic lumber along Lake Hartwell's public boat ramps.
- Other examples of recycled content products that can be purchased include carpeting made from post-consumer beverage containers as well as glass cullet as an aggregate and as a reflective material in road paints.

Additionally, the S.C. Budget and Control Board's Material Management Office (MMO), State Central Supply Office, Chief Information Office and DHEC's Office of Solid Waste Reduction and Recycling are working together to make purchasing recycled content items easier. A choice of recycled content versus virgin products has been established on several statewide contracts. Examples include:

- **OFFICE SUPPLIES** – postable notes, index cards, binders, etc.;
- **FINE PAPERS AND ENVELOPES** – copy paper, clasp envelopes, etc.; and
- **OTHER PAPER PRODUCTS** – toilet tissue, hand towels, etc.

A statewide contract for a service to provide renewable/reusable oil filters has been established. MMO currently is bidding out contracts on re-refined oil and re-refined antifreeze. The statewide contract for state agency business cards requires 30 percent post-consumer content bond.

The Office is working with MMO and private industry to develop and maintain non-restrictive recycled content specifications based on industry standards. In addition, MMO is periodically advertising in S.C. Business Opportunities for vendors to provide information on their recycled content products. Both the statewide contracts and recycled content specifications are available to agencies and other governmental entities as well as the public at the MMO Web site, www.state.sc.us/mmo.

The Recycle Guys Awards Program

For the past eight years, the S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling (Office) has honored the top waste reduction and recycling programs, projects and people in South Carolina for outstanding achievement in a variety of categories.

One of the categories is the Outstanding State Agency Waste Reduction/Recycling Program Award. The criteria for this awards includes the success of the program (e.g., recycling rate, participation rate, amount of material recycled, amount of waste reduced, prevented or composted materials collected, buy recycled efforts, customers served), innovative approaches, leadership and education efforts.

Outstanding State Agencies in the past have included the S.C. Department of Corrections, the S.C. Department of Health and Human Resources, Greenville County Health Department and the S.C. Department of Alcohol and Other Drug Abuse Services.

This 2002 recipient was the S.C. Department of Education (SCDOE). This state agency is committed to recycling and includes the following in its mission statement:

"Our goal is to create awareness that recycling saves energy and natural resources. By implementing a recycling program in our agency,

we can encourage others to protect our environment."

This mission statement is posted on each floor to remind staff of the importance of recycling. It's working. SCDOE estimates that about 85 percent of its staff is recycling, but its goal is 100 percent participation.

To achieve that goal, SCDOE has developed a Recycle Team to promote recycling and provide assistance on how to do it right. Recycling bins were purchased. There is a team leader on each of the 12 floors of SCDOE's building on Senate Street in Columbia and satellite offices. The recycling program accepts paper, cardboard, newspaper, magazines, book (both hardcover and soft cover), printer cartridges, aluminum, steel cans, telephone books, pallets, copper and electrical wire. More than half of SCDOE's paper is recycled.

Waste Reduction practices include double-sided printing and having the print shop use waste paper to make scratch pads.

SCDOE encourages the buying of recycled content products and educates staff during orientation. In addition, the state agency attempts to track all recycled content items purchased.

Overall, more than 17,000 pounds of materials were recycled in fiscal year (FY) 2002 – an increase of more than 11,000 pounds from FY 2001.

Recommendations

The S.C. Department of Health and Environmental Control's (DHEC) Office of Solid Waste Reduction and Recycling (Office) offers the following recommendations to state agencies as well as colleges and universities: 1) improve waste reduction, recycling and buying recycled programs and practices and 2) to improve the collection and reporting of information associated with these type of waste management activities.

Reporting

Every state agency, college and university is required to report and should report. In order to increase participation for reporting, the Office, following the S.C. Resource Conservation Challenge, is helping develop a task force of state agencies and colleges and universities that will work to improve their waste management practices.

Recycling

Most buildings and/or office spaces are not owned but are leased. Space for recycling and solid waste management is a detail that is often overlooked in real estate agreements. New office buildings recently built in the Columbia area have been designed without loading docks to allow for office supply deliveries or recycling storage and collection.

State agencies, colleges and universities together with the S.C. Budget and Control Board's State Building and Property Services and the Office, should work to ensure that wording in the real estate lease agreements includes:

- recycling collection (janitorial or office staff);
- storage of recovered materials until pick up (covered space and room for handling); and
- credit for waste reduction. (In many cases, building owners pay for disposing of waste.

Recycling programs reduce the amount of waste generated and therefore save the building owner disposal costs. Financial credit should be given on the lease to the leasee for these savings.)

Waste Reduction

The Office has two recommendations: First, the Office strongly recommends that each state agency and college and university develop, continue and expand education programs to increase awareness and to encourage waste reduction and cost saving practices. The Office can provide technical assistance in this area.

Second, the Office recommends that state agencies and colleges and universities use the state's surplus system to find new homes for unused materials and supplies. The hierarchy of waste management begins with not generating waste in the first place. The state's surplus system promotes the reuse of materials that are purchased by South Carolina state government. This system works well, and agencies and learning institutions should remember to do in-house outreach efforts for reuse before sending items to surplus.

Buying Recycled

State government needs to buy recycled. It's easy. All paper and paper products purchased on state contract could be recycled content including all paper products purchased from Central Supply. More recycled content and environmentally friendly contracts need to be offered. These contracts could ease the tracking of these products purchased. The Office will continue working with Materials Management Office, Chief Information Office and other areas in the S.C. Budget and Control Board to improve and ease the buy recycled purchasing process.

Appendix

The following state agencies and colleges/universities submitted their reports for this publication.

COLLEGES AND UNIVERSITIES

- Aiken Technical College
- Central Carolina Technical College
- Charleston University
- Clemson University
- Coastal Carolina University
- Denmark Technical College
- Florence-Darlington Technical College
- Francis Marion University
- Governor's School for Science and Mathematics
- Greenville Technical College
- Horry-Georgetown Technical College
- John de la Howe School
- Lander University
- Medical University of South Carolina
- Midlands Technical College
- Northeastern Technical College
- Orangeburg-Calhoun Technical College
- Piedmont Technical College
- S.C. School for the Deaf and Blind
- S.C. State University
- Technical College of the Low Country
- The Citadel
- Trident Technical College
- Will Lou Grey Opportunity School
- University of South Carolina
- Williamsburg Technical College
- Winthrop University
- York Technical College

AGENCIES

- Administrative Law Judge Division
- Education Oversight Committee
- Governor's Office
- Office of Lt. Governor
- Office of the Adjutant General
- Office of the State Auditor
- Office of State Archaeologist
- Patriots Point Development Authority
- Public Service Commission of S.C.
- S.C. Arts Commission
- S.C. Attorney General
- S.C. Commission for Higher Education
- S.C. Commission for Minority Affairs
- S.C. Commission for the Blind
- S.C. Department of Agriculture
- S.C. Department of Alcohol and Other Drugs
- S.C. Department of Archives and History
- S.C. Department of Commerce
- S.C. Department of Consumer Affairs
- S.C. Department of Corrections
- S.C. Department of Disabilities and Special Needs
- S.C. Department of Education
- S.C. Department of Health and Environmental Control
- S.C. Department of Health and Human Services
- S.C. Department of Insurance
- S.C. Department of Juvenile Justice
- S.C. Department of Labor, Licensing and Regulation
- SC Department of Mental Health
- S.C. Department of Natural Resources
- S.C. Department of Parks, Recreation and Tourism
- S.C. Department of Public Safety
- S.C. Department of Revenue
- S.C. Department of Social Services
- S.C. Department of Transportation
- S.C. Educational Television
- S.C. Employment Security Commission
- S.C. Higher Education Tuition Grants Commission
- S.C. Human Affairs Commission
- S.C. Jobs-Economic Development Authority
- S.C. Judicial Department
- S.C. Law Enforcement Division
- S.C. Legislative Audit Council
- S.C. Office of Appellate Defense
- S.C. Probation, Parole and Pardon Services
- S.C. Public Service Authority
- S.C. Sea Grant Consortium
- S.C. Second Injury Fund
- S.C. Senate
- S.C. State Housing Finance and Development Authority
- S.C. State Library
- S.C. State Museum Commission
- S.C. State Ports Authority
- S.C. State Treasurer's Office
- S.C. Vocational Rehabilitation Department
- Sentencing Guidelines Commission
- State Accident Fund
- State Board for Technical and Comprehensive Education
- State Board of Financial Institution
- State Budget and Control Board
- State Election Commission
- States Ethics Commission